2 Sheets--Sheet 1.

W. W. LOUIS.
Cotton-Press.

No. 161,802. Patented April 6, 1875.

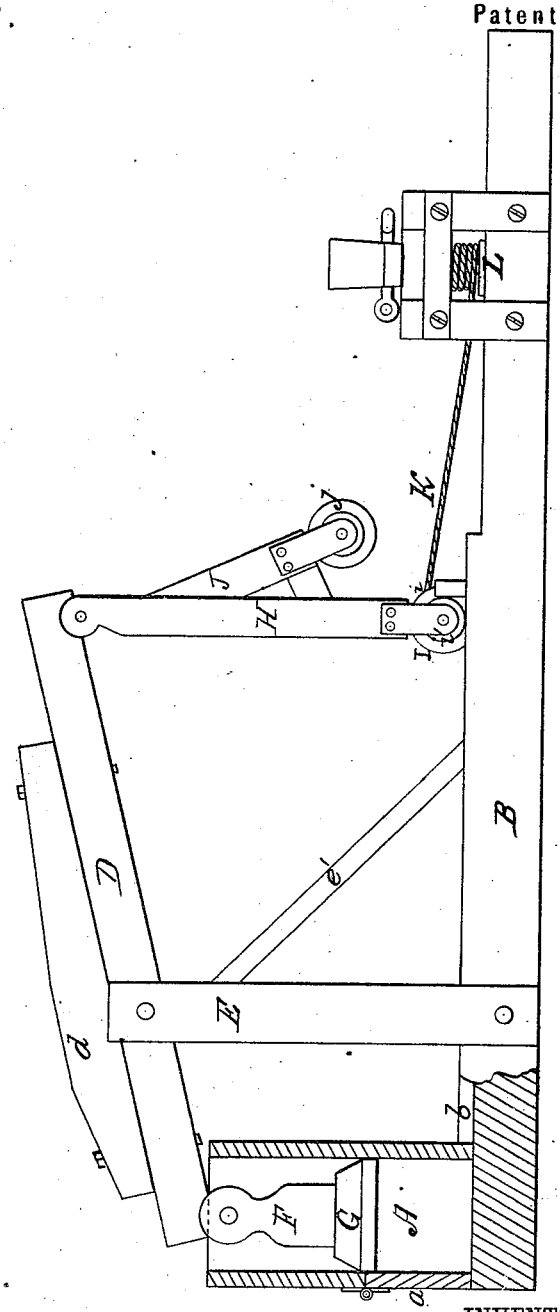

Fig. 1

WITNESSES

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2 Sheets--Sheet 2.

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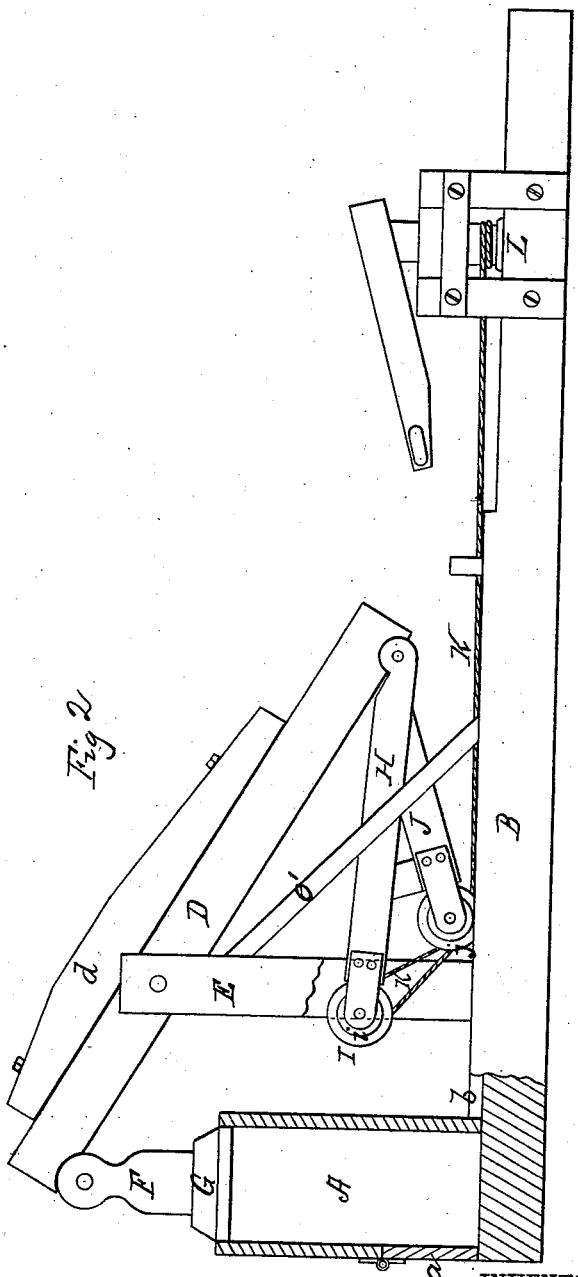
Fig 2



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UNITED STATES PATENT OFFICE.

WILLIAM W. LOUIS, OF FREZERANT, TENNESSEE.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **161,802**, dated April 6, 1875; application filed October 3, 1874.

To all whom it may concern:

Be it known that I, WILLIAM W. LOUIS, of Frezerant, in the county of Carroll and State of Tennessee, have invented a new and valuable Improvement in Cotton-Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of side views of my cotton-press.

This invention has relation to cotton-presses of the upright kind, wherein the power end of an actuating-lever, having hinged to its weight end a follower, is elevated to depress the said follower by drawing outward an arm hinged to the power end thereof; and the novelty consists in a secondary arm rigidly secured to such an arm, both having upon their lower ends suitable anti-friction rollers, whereby the chain, through the medium of which the motive power is communicated from a suitable motor to the said arm for the purpose of elevating the power end of the lever, will at all times be in contact with one or the other of the said rollers, thereby greatly diminishing the friction of the said chain, and consequently decreasing the amount of power used for compressing a bale, as will be hereinafter more fully explained.

In the annexed drawings, A designates an upright press-box, having a hinged door, *a*, at its lower part, through which a completed bale will be removed from the said box. B designates the ground-sill of the press-frame, which is preferably sunk into the ground even with the surface of the soil, and upon which the press-box A is mounted, and to which it is rigidly secured. This sill has a deep longitudinal groove, *b*, running from end to end thereof, for a purpose hereinafter to be explained. D designates the actuating-lever, having its fulcrum on the upper ends of upright standards E, which are connected together by transverse braces, and are stayed to the sill by other braces *e'*. The lever D is strengthened by means of a piece of timber, *d*, which is rigidly bolted thereto, as shown in Fig. 1. F designates an arm, which is hinged to the weight end of the said lever, so as to vibrate with the length thereof, and to which the follower G is attached, the said follower being hinged to the said arm for the purpose of allowing it to retain a horizontal position in the press-box. H designates a hinged arm, of greater length than the distance between the fulcrum of the lever and the upper surface of the sill, which is applied to the power end of the said lever, and which vibrates in the direction of its long axis. I is a pulley, having a grooved periphery, *i*, and two reduced annular rollers, *i'*, one on each side of the raised groove, whereby it is made to discharge the functions both of a pulley and of a roller. The grooved part of this pulley-roller is intended to run in the groove *b* of the sill, its roller-surfaces bearing upon the upper surfaces of the sill at each side of its groove, which surfaces may be provided with a protecting-strip of iron for the purpose of preventing undue wear thereof. This pulley is arranged in suitable bearings upon the end of the arm H, as shown in Fig. 1. J designates a projecting arm, rigidly secured to the hinged arm H, and bearing upon its end a pulley, *j*, similar in all respects to the pulley I. K designates a rope or chain, one end of which is rigidly fastened to the sill A, passing thence from below, over the pulley I, to a winding-drum, L, operated by any suitable motive power.

The press-box having been filled with cotton, the follower being in the position shown in Fig. 2, I cause the follower to descend into the said press-box by causing the drum to be actuated. This has the effect of drawing out the arm H, causing the power end to be elevated, thereby depressing the weight end and forcibly compressing the cotton. During the commencement of the operation of causing the said arm to be drawn outwardly, the power applied from the drum is greatly increased by the action of the chain or rope K upon the anti-friction pulley *j*, while at the same time a more direct action upon the said arm is obtained by the angular position of the secondary arm with regard to it. After the discharge of a completed bale through the door at the lower part of the press-box, a slight start will cause the arms to run inward upon

its roller to the position indicated in Fig. 2, the roller *j* upon the arm J materially aiding in this movement, which has for its object the running up of the follower for the purpose of recharging with cotton the press-box.

The advantage gained by the use of the secondary arm J I will now proceed to explain. When the lever-arm H is run inward toward the press-box, instead of running along the groove *b* of the ground-sill until it strikes the side thereof, it is borne upward in the arc of a circle when the roller *j* reaches the sill, enabling me to raise the follower completely from the press-box, and to increase the length of the lever-arm H without increasing the length of the standards E or of the press-box. This increase of the length of the arm H, which actually does the work of raising the power end of the lever D, increases in a corresponding degree the amount of power applied to the follower by the said lever. Hence I am enabled, by the attachment of the secondary arm J, to obtain from the same motor, and from a press of the same size, a greatly-increased compressing-power, and to reduce to a smaller compass the substance to be baled, than where a single arm is used.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the lever D and hinged arm H, of the secondary arm J, rigidly secured thereto, substantially as specified.

2. The combination, with the cable K and the lever D, of the arms H J, having pulleys I *j* upon their lower ends, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM WINSTON his + mark. LOUIS.

Attest:
W. P. McCRACKEN,
S. W. BERRYHILL.